Application No. 10/099,916
Reply to Office Action of July 12, 2006

Docket No.: 102323-0096

REMARKS

This reply is submitted in response to the Office Action dated July 12, 2006. Claim 1 is amended to include the limitations of claims 2 and 3, claim 10 is amended to include the limitations of claims 13 and 14, claim 16 is amended, and claims 2, 3, 13, and 14 are canceled. The amendments above and remarks that follow address the points raised in the Office Action and, thereby are believed to place this application in condition for allowance.

Claim Rejections under 35 U.S.C. § 101

Claims 1, 3-10, 12-14, and 16-20 stand rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Without acquiescing to the rejections, claims 1, 10, and 16 are amended to include the steps of generating detection statistics corresponding to symbols transmitted by the users and encoded in the waveforms as a function of the cross correlation matrix, and generating estimates of the symbols based on the detection statistics. These features result in a tangible result produced by the invention, thereby overcoming these rejections.

Applicants note that no prior art rejections are cited against independent claims 10 and 16. As the above amendments overcome the §101 rejections, these claims, as well as claims 12 and 17-20 which depend therefrom, are believed to be in condition for allowance.

Claim Rejections under 35 U.S.C. § 103

Claims 1 and 3-5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,917,829 of Hertz et al.

Claim 1 is directed to a method of processing spread spectrum waveforms transmitted by a plurality of users of a spread spectrum system. The method comprises distributing among a plurality of logic units parallel tasks, each for computing a portion of a matrix indicative of cross correlations among the waveforms transmitted by the users. The method further includes partitioning computation of the cross-correlation matrix such that a computational load associated with a task distributed to one of the logic units is substantially equal to a computational load

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associated with another task distributed to another logic unit. The distributed tasks are then executed with the plurality of logic units. Detection statistics are generated, which correspond to symbols transmitted by the users and encoded in the waveforms as a function of the cross correlation matrix, and estimates of the symbols are generated based on the detection statistics.

Hertz does not teach partitioning the computation of a cross-correlation matrix among a plurality of logic units so that the load on each logic unit is substantially equal. Hertz purports to teach a decorrelating detector for use with a CDMA system that utilizes only one symbol length for each user. The signal from each user is correlated with a pair of partial signature sequences stored in a memory, and this result is decorrelated and then processed by a symbol combiner to obtain estimated symbol values for the signals from each user.

The Examiner states, on page 3 of the Office Action, that Hertz fails to teach that the received signal is partitioned substantially equally among the plurality of correlators, but that it would have been obvious to one of ordinary skill in the art to use the correlators as described in Hertz in the manner recited in claim 1. Applicant respectfully disagree for the following reasons.

The Examiner has failed to establish a prima facie case of obviousness for at least the following reasons: (1) the Examiner does not point out any suggestion or motivation in the reference itself, or in the knowledge generally available to one or ordinary skill in the art, to modify Hertz to partition the computation of a cross-correlation matrix substantially equally among the plurality of correlators; (2) nor does the Examiner provide another reference to combine with Hertz to teach partitioning computation of a cross-correlation matrix substantially equally among the plurality of correlators. The Examiner's naked statement that the modification would have been obvious is not sufficient to establish a prima facie case of obviousness. In fact, in Hertz, each correlator is assigned to a specific user. As such, the Hertz system cannot be readily modified to provide load balancing among the correlators.

Thus, claim 1, and claims 3-5 which depend therefrom, are patentable over Hertz.

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Conclusion

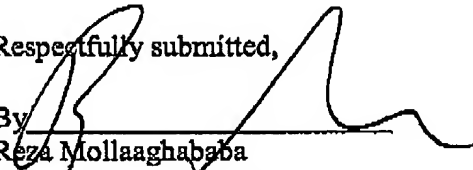In view of the above amendment, applicant believes the pending application is in condition

for allowance.

Dated: *Oct. 12, 2006*   Respectfully submitted,

                                           By
                                           Reza Mollaaghababa
                                           Registration No.: 43,810
                                           NUTTER MCCLENNEN & FISH LLP
                                           World Trade Center West
                                           155 Seaport Boulevard
                                           Boston, Massachusetts 02210-2604
                                           (617) 439-2514
                                           (617) 310-9514 (Fax)
                                           Attorney for Applicant

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